

## REMARKS / AGRUMENTS

Applicant(s) respectfully traverse this rejection for the reasons set out below, and ask the Examiner for reconsideration.

Summary of the Office Action

Claims 1-7 and 12-17 are pending in this patent application. Claims 8-11 and 18-24 were cancelled (without prejudice) in response to a restriction requirement.

Claims 1-4 stand rejected under the nonstatutory double patenting doctrine;

Claim 1 stand rejected under 35 U.S.C. 102(e) as allegedly being anticipated by U.S. patent 6952456 of Aiello (hereinafter- Aiello).

Claims 2 and 3 stand rejected under 35 U.S.C. 103(a) as allegedly being anticipated by Aiello.

Claims 4 and 7 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Aiello in view of U.S. patent 6665339 of Adams (hereinafter- Adams).

Claim 6 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Aiello in view of Adams and in further view of U.S patent 5598405 of Hirose hereinafter- Hirose);

Claims 14 and 15 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Aiello in view of U.S. patent 6430208 of Fullerton (hereinafter- Fullerton).

Claim 16 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Aiello in view of U.S. patent 6952456 of Garg et al. (hereinafter - Garg).

Claim 17 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Aiello in view of Garg and in further view of U.S patent 6690741 of Larrick Jr. et al (hereinafter- Larrick);

Claim 1 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Fullerton in view of Larrick.

*Claim 5 would be allowable if written in independent form including all the limitations of the base claim and any intervening claims.*

**Amendment of claims**

**Inclusion of limitations of original claim 5 (and original claim 4 from which claim 5 depended upon).**

The examiner indicated that original claim 5 is allowable if written in independent form including all the limitations of the base claim and any intervening claims. Original claim 5 was dependent upon original claim 4 that in turn was dependent upon claim 1.

Claims 1, 12 and 14 were amended in order to incorporate the limitations of original claims 4 and 5.

New claim 25 was added. Claim 25 depends upon claim 16 and includes the limitations of original claims 4 and 5.

**Cancelled claims.**

Claims 3-6 were cancelled without prejudice.

Claim 13 was cancelled without prejudice.

**Other amendments.**

Claim 7 was amended to be dependent upon amended claim 1 (and not upon original claim 4).

Claim 26 was added such as to describe a utilization of an adjustable threshold rectifier.

No new matter was introduced by the amendment.

**Response to the double patenting rejection of claims 1-4**

Claim 1 was amended to include the subject matter of claim 5. Claim 2 depends upon claim 1 and claims 3 and 4 were deleted.

The applicant believes that in view of the amendment (and especially as original claim 5 was not subject to the double patenting rejection) that the double patenting rejection was overcome.

**Rejection of claim 16 under 35 U.S.C. 103(a)**

Claim 16 stands rejected under 35 U.S.C. 103(a) as allegedly being unpatentable by Aiello in view of U.S. patent 6952456 of Garg et al. (hereinafter - Garg).

Claim 16 was amended to emphasize that the sine wave envelope is multiplied by a carrier signal. According to an embodiment of the invention, (being claimed in amended claim 16), the carrier signal and not the data signal is multiplied by the envelope.

Garg discloses a multiplication of data signals (so-called "I-channel" and "Q-channel" signals) by two finite impulse filters (28(I) and 28(Q)). He does not disclose multiplying the carrier signal by the envelope.

**Conclusion**

The applicant believes that in view of these arguments the claims of US patent application 10/643,108 should be allowed.

Respectfully submitted,

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